



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: )  
)  
Marc ALIZON et al. ) Group Art Unit: 1637  
)  
Application No.: 07/158,652 ) Examiner: Jeffrey Norman Fredman  
)  
Filed: February 22, 1988 ) Confirmation No.: 3369  
)  
For: CLONED DNA SEQUENCE RELATED TO THE GENOMIC RNA  
OF HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**REQUEST TO CORRECT INVENTORSHIP**

Pursuant to 37 C.F.R. § 1.48, applicants request that the inventorship in this application be corrected as follows.

Pursuant to 37 C.F.R. § 1.48 (c), please add the following inventors to this application:

Robert C. Gallo,  
Milkulas Popovic,  
Mangalasseril G. Sarngadharan,  
Solange Chamaret,  
Claudine Axler-Bin,  
Francoise Rey,  
Marie-Therese Nugeyre,  
Jacqueline Gruet,  
Charles Dauget,  
Willy Rozenbaum,  
Christine Rouzioux,  
Francoise Brun-Vezinet,  
Luc Montagnier,  
Jean-Claude Chermann,

06/06/2006 JADD01 00000042 07158652  
03 FC:1464 130.00 OP

**BEST AVAILABLE COPY**

Francoise Barre-Sinoussi, and  
Pierre Tiollais.

The addition of the above-named inventors is necessitated by amendment of the claims during prosecution of this application.

A statement from each person being added as an inventor that the addition is necessitated by amendment of the claims and that the inventorship error occurred without deceptive intent is enclosed.

A Declaration by each of the actual inventors is enclosed. One copy of the application is enclosed, although each Declaration was attached to a copy of the application when it was executed. The duplicate copies of the application have been removed to reduce the size of the submission, but will be provided by applicants if the Examiner requires them.

The written consent of each of the assignees is enclosed.

A check for the required fee of \$130.00 under §1.17(i) is enclosed

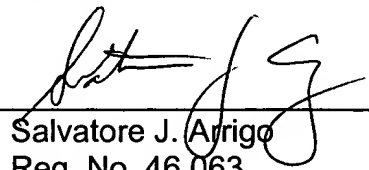
Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: June 5, 2006

By: \_\_\_\_\_

  
Salvatore J. Arrigo

Reg. No. 46,063

Telephone: 202-408-4160

Facsimile: 202-408-4400

E-mail: arrigos@finnegan.com



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Marc ALIZON et al. ) Group Art Unit: 1637  
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OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF SOLANGE CHAMARET**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.

I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: S. Damant

Date: Feb - 05 - 06



U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1  
(HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	5670	5680	5690	5700	
	A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA	
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAATTTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATATA	CATTATTGTG

6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG

7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTCAC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAATAAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700	
					ATGAGAGTGA	
5710	5720	5730	5740	5750	5760	
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGGA	
5770	5780	5790	5800	5810	5820	
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG	
5830	5840	5850	5860	5870	5880	
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG	
5890	5900	5910	5920	5930	5940	
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG	
5950	5960	5970	5980	5990	6000	
TAGTATTGGT	AAATGTGACA	GAAAAATTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA	
6010	6020	6030	6040	6050	6060	
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC	
6070	6080	6090	6100	6110	6120	
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA	
6130	6140	6150	6160	6170	6180	
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT	
6190	6200	6210	6220	6230	6240	
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC	
6250	6260	6270	6280	6290	6300	
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT	
6310	6320	6330	6340	6350	6360	
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG	
6370	6380	6390	6400	6410	6420	
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT	
6430	6440	6450	6460	6470	6480	
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC	
6490	6500	6510	6520	6530	6540	
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACACG	
6550	6560	6570	6580	6590	6600	
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC	

6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC

7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	ACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAAC TTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGG AAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAAC TAAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

6100	6110	6120			
GAATGC	TACTAATACC	AATAGTAGTA			
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200				
TCAATATCAG	CACAAGCATA.				

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6260        6270        6280        6290        6300
          T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
                6390        6400        6410        6420
                  A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430        6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6490        6500        6510        6520        6530        6540
      GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTCACAG

        6550        6560        6570        6580        6590        6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610        6620
CCAACAACAA TACAAGAAAA.
```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

6860            6870            6880            6890            6900  
 T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA  
 6910            6920            6930  
 CTTGGAGTAC TGAAGGGTCA AATAACACTG.

149. A cloned DNA of Human Immunodeficiency Virus Type 1  
 (HIV-1), wherein the DNA comprises the sequence  
 CTCATAAAGCTTGCCTTG, and the DNA comprises the sequence:

7540            7550            7560  
 GAATGC TAGTTGGAGT AATAAATCTC  
 7570            7580            7590            7600            7610            7620  
 TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA  
 7630  
 CAAGCTTAAT.

150. A method of using the cloned DNA of any of claims 142-  
 149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.



151. A method of making HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

THE UNITED STATES PATENT AND TRADEMARK OFFICE

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 ) Examiner: Jeffrey N. Fredman  
Application No.: 07/158,652 )  
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Filed: February 22, 1988 )  
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For: CLONED DNA SEQUENCE  
RELATED TO THE GENOMIC RNA  
OF HUMAN IMMUNODEFICIENCY  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF CLAUDINE AXLER-BLIN**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.

I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: Claudine Axler-Blum

Date: 26 Mar 2006

U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1  
(HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

		5670	5680	5690	5700
		A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATATA	CATTATTGTG

6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGGAGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG

7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACATAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700 ATGAGAGTGA
5710 AGGAGAAATA	5720 TCAGCACTTG	5730 TGGAGATGGG	5740 GGTGGAATG	5750 GGGCACCATG	5760 CTCCTTGGGA
5770 TATTGATGAT	5780 CTGTAGTGCT	5790 ACAGAAAAAT	5800 TGTGGGTCAC	5810 AGTCTATTAT	5820 GGGGTACCTG
5830 TGTGGAAGGA	5840 AGCAACCACC	5850 ACTCTATTTT	5860 GTGCATCAGA	5870 TGCTAAAGCA	5880 TATGATACAG
5890 AGGTACATAA	5900 TGTTTGGGCC	5910 ACACATGCCT	5920 GTGTACCCAC	5930 AGACCCCAAC	5940 CCACAAGAAG
5950 TAGTATTGGT	5960 AAATGTGACA	5970 GAAAATTTTA	5980 ACATGTGGAA	5990 AAATGACATG	6000 GTAGAACAGA
6010 TGCATGAGGA	6020 TATAATCAGT	6030 TTATGGGATC	6040 AAAGCCTAAA	6050 GCCATGTGTA	6060 AAATTAACCC
6070 CACTCTGTGT	6080 TAGTTTAAAG	6090 TGCACTGATT	6100 TGGGGAATGC	6110 TACTAATACC	6120 AATAGTAGTA
6130 ATACCAATAG	6140 TAGTAGCGGG	6150 GAAATGATGA	6160 TGGAGAAAGG	6170 AGAGATAAAA	6180 AACTGCTCTT
6190 TCAATATCAG	6200 CACAAGCATA	6210 AGAGGTAAGG	6220 TGCAGAAAGA	6230 ATATGCATTT	6240 TTTTATAAAC
6250 TTGATATAAT	6260 ACCAATAGAT	6270 AATGATACTA	6280 CCAGCTATAC	6290 GTTGACAAGT	6300 TGTAACACCT
6310 CAGTCATTAC	6320 ACAGGCCTGT	6330 CCAAAGGTAT	6340 CCTTTGAGCC	6350 AATTCCCATA	6360 CATTATTGTG
6370 CCCCGGCTGG	6380 TTTTGCGATT	6390 CTAAAATGTA	6400 ATAATAAGAC	6410 GTTCAATGGA	6420 ACAGGACCAT
6430 GTACAAATGT	6440 CAGCACAGTA	6450 CAATGTACAC	6460 ATGGAATTAG	6470 GCCAGTAGTA	6480 TCAACTCAAC
6490 TGCTGTTGAA	6500 TGGCAGTCTA	6510 GCAGAAGAAG	6520 AGGTAGTAAT	6530 TAGATCTGCC	6540 AATTTACACAG
6550 ACAATGCTAA	6560 AACCATAATA	6570 GTACAGCTGA	6580 ACCAATCTGT	6590 AGAAATTAAT	6600 TGTACAAGAC

6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC



7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACATAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	6100	6110	6120
	GAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160
6170	6180		
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG
		AGAGATAAAA	AACTGCTCTT
6190	6200		
TCAATATCAG	CACAAGCATA.		

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6260        6270        6280        6290        6300
          T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
                6390                6400                6410                6420
                  A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430        6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6490        6500        6510        6520        6530        6540
      GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTACAG

        6550        6560        6570        6580        6590        6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610        6620
CCAACAACAA TACAAGAAAA.
```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

6860            6870            6880            6890            6900  
 T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA  
 6910            6920            6930  
 CTTGGAGTAC TGAAGGGTCA AATAACACTG.

149. A cloned DNA of Human Immunodeficiency Virus Type 1  
 (HIV-1), wherein the DNA comprises the sequence  
 CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

7540            7550            7560  
 GAATGC TAGTTGGAGT AATAAATCTC  
 7570            7580            7590            7600            7610            7620  
 TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAAATTACA  
 7630  
 CAAGCTTAAT.

150. A method of using the cloned DNA of any of claims 142-  
 149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey N. Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF FRANÇOISE REY  
(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No. 07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652 have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.

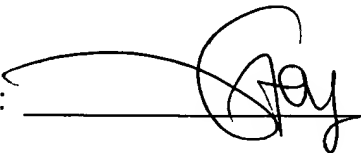
I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By:  \_\_\_\_\_

Date: 29 Mar 2006

U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1  
(HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

		5670	5680	5690	5700
		A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATATA	CATTATTGTG

6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGTAC	TGAAGGGTCA	AATAAACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG



7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACATAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700	
					ATGAGAGTGA	
5710	5720	5730	5740	5750	5760	
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGGA	
5770	5780	5790	5800	5810	5820	
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG	
5830	5840	5850	5860	5870	5880	
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG	
5890	5900	5910	5920	5930	5940	
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG	
5950	5960	5970	5980	5990	6000	
TAGTATTGGT	AAATGTGACA	GAAAAATTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA	
6010	6020	6030	6040	6050	6060	
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC	
6070	6080	6090	6100	6110	6120	
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA	
6130	6140	6150	6160	6170	6180	
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT	
6190	6200	6210	6220	6230	6240	
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC	
6250	6260	6270	6280	6290	6300	
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT	
6310	6320	6330	6340	6350	6360	
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG	
6370	6380	6390	6400	6410	6420	
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT	
6430	6440	6450	6460	6470	6480	
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC	
6490	6500	6510	6520	6530	6540	
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACACG	
6550	6560	6570	6580	6590	6600	
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC	

6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAAACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC

7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACTAAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	6100	6110	6120		
	GAATGC	TACTAATACC	AATAGTAGTA		
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200				
TCAATATCAG	CACAAGCATA.				

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6260        6270        6280        6290        6300
          T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
                6390        6400        6410        6420
                  A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430        6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6490        6500        6510        6520        6530        6540
      GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTCACAG

        6550        6560        6570        6580        6590        6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610        6620
CCAACAACAA TACAAGAAAA.
```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

6860            6870            6880            6890            6900  
 T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA  
 6910            6920            6930  
 CTTGGAGTAC TGAAGGGTCA AATAACACTG.

149. A cloned DNA of Human Immunodeficiency Virus Type 1  
 (HIV-1), wherein the DNA comprises the sequence  
 CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

7540            7550            7560  
 GAATGC TAGTTGGAGT AATAAATCTC  
 7570            7580            7590            7600            7610            7620  
 TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA  
 7630  
 CAAGCTTAAT.

150. A method of using the cloned DNA of any of claims 142-  
 149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey N. Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF MARIE-THERESE NUGEYRE**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.



I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: 

Date: May 29 2006

U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1  
(HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	5670	5680	5690	5700
	A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA
5710	5720	5730	5740	5750
5760				
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAATG	GGGCACCATG
CTCCTTGGGA				
5770	5780	5790	5800	5810
5820				
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT
GGGGTACCTG				
5830	5840	5850	5860	5870
5880				
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA
TATGATACAG				
5890	5900	5910	5920	5930
5940				
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC
CCACAAGAAG				
5950	5960	5970	5980	5990
6000				
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG
GTAGAACAGA				
6010	6020	6030	6040	6050
6060				
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA
AAATTAACCC				
6070	6080	6090	6100	6110
6120				
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC
AATAGTAGTA				
6130	6140	6150	6160	6170
6180				
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA
AACTGCTCTT				
6190	6200	6210	6220	6230
6240				
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT
TTTTATAAAC				
6250	6260	6270	6280	6290
6300				
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT
TGTAACACCT				
6310	6320	6330	6340	6350
6360				
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATATA
CATTATTGTG				

6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTTCACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGGAGTAC	TGAAGGGTCA	AATAAFACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCCTCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG

7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACATAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700 ATGAGAGTGA
5710 AGGAGAAATA	5720 TCAGCACTTG	5730 TGGAGATGGG	5740 GGTGGAATG	5750 GGGCACCATG	5760 CTCCTTGGA
5770 TATTGATGAT	5780 CTGTAGTGCT	5790 ACAGAAAAAT	5800 TGTGGGTCAC	5810 AGTCTATTAT	5820 GGGGTACCTG
5830 TGTGGAAGGA	5840 AGCAACCACC	5850 ACTCTATTTT	5860 GTGCATCAGA	5870 TGCTAAAGCA	5880 TATGATACAG
5890 AGGTACATAA	5900 TGTTTGGGCC	5910 ACACATGCCT	5920 GTGTACCCAC	5930 AGACCCCAAC	5940 CCACAAGAAG
5950 TAGTATTGGT	5960 AAATGTGACA	5970 GAAAAATTTA	5980 ACATGTGGAA	5990 AAATGACATG	6000 GTAGAACAGA
6010 TGCATGAGGA	6020 TATAATCAGT	6030 TTATGGGATC	6040 AAAGCCTAAA	6050 GCCATGTGTA	6060 AAATTAACCC
6070 CACTCTGTGT	6080 TAGTTTAAAG	6090 TGCACTGATT	6100 TGGGGAATGC	6110 TACTAATACC	6120 AATAGTAGTA
6130 ATACCAATAG	6140 TAGTAGCGGG	6150 GAAATGATGA	6160 TGGAGAAAGG	6170 AGAGATAAAA	6180 AACTGCTCTT
6190 TCAATATCAG	6200 CACAAGCATA	6210 AGAGGTAAGG	6220 TGCAGAAAGA	6230 ATATGCATTT	6240 TTTTATAAAC
6250 TTGATATAAT	6260 ACCAATAGAT	6270 AATGATACTA	6280 CCAGCTATAC	6290 GTTGACAAGT	6300 TGTAACACCT
6310 CAGTCATTAC	6320 ACAGGCCTGT	6330 CCAAAGGTAT	6340 CCTTTGAGCC	6350 AATTCCCATA	6360 CATTATTGTG
6370 CCCCGGCTGG	6380 TTTTGCGATT	6390 CTAAAATGTA	6400 ATAATAAGAC	6410 GTTCAATGGA	6420 ACAGGACCAT
6430 GTACAAATGT	6440 CAGCACAGTA	6450 CAATGTACAC	6460 ATGGAATTAG	6470 GCCAGTAGTA	6480 TCAACTCAAC
6490 TGCTGTTGAA	6500 TGGCAGTCTA	6510 GCAGAAGAAG	6520 AGGTAGTAAT	6530 TAGATCTGCC	6540 AATTTACAG
6550 ACAATGCTAA	6560 AACCATAATA	6570 GTACAGCTGA	6580 ACCAATCTGT	6590 AGAAATTAAT	6600 TGTACAAGAC

6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCCTCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTGTCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC

7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAAC TTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGG AAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGA ACTAAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

6100	6110	6120			
GAATGC	TACTAATACC	AATAGTAGTA			
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200				
TCAATATCAG	CACAAGCATA.				

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6260        6270        6280        6290        6300
          T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
                6390                6400                6410                6420
                  A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430        6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6490        6500        6510        6520        6530        6540
          GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTCACAG

        6550        6560        6570        6580        6590        6600
        ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610        6620
CCAACAACAA TACAAGAAAA.
```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::



6860            6870            6880            6890            6900  
 T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA  
 6910            6920            6930  
 CTTGGAGTAC TGAAGGGTCA AATAACACTG.

149. A cloned DNA of Human Immunodeficiency Virus Type 1  
 (HIV-1), wherein the DNA comprises the sequence  
 CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

7540            7550            7560  
 GAATGC TAGTTGGAGT AATAAATCTC  
 7570            7580            7590            7600            7610            7620  
 TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA  
 7630  
 CAAGCTTAAT.

150. A method of using the cloned DNA of any of claims 142-  
 149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-1 RNA comprising:

(a) providing a biological fluid comprising HIV-1 infected cells;

(b) preparing a cell-free supernatant from the biological fluid;

(c) isolating HIV-1 virions from the cell-free supernatant; and

(d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey N. Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT ON BEHALF OF JACQUELINE GRUEST**  
**(Being Added As An Inventor)**

I, JACQUES GRUEST, am the heir of the estate of JACQUELINE GRUEST, who is deceased.

I have been informed that Jacqueline Gruest was not named as an inventor in application Serial No. 07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652 have been amended by adding claims 142-151 to the application.

I have been informed that a copy of claims 142-151 is attached hereto.


I have been informed that claims 142-151 were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I have been informed that Jacqueline Gruet is being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that the addition of Jacqueline Gruet as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

On information and belief, the inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on the part of Jacqueline Gruet.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By:   
JACQUES GRUEST  
Heir of the Estate of Jacqueline Gruet

Date: 25. 05. 2006

U.S. Patent Application No. 07/158,652

Filed: February 22, 1988

Inventors: Alizon et al.

DI No.: 84-37

Our Ref.: 03495.0010-01000

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Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	5670	5680	5690	5700	
	A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA	
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT

6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG
6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTTCACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT

7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAACT	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAATTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAATAAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700
					ATGAGAGTGA
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAATG	GGGCACCATG	CTCCTTGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG
6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC



6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA

7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAACT	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAAC TTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGA ACTAAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

                                6100      6110      6120
                                GAATGC   TACTAATACC AATAGTAGTA
6130      6140      6150      6160      6170      6180
ATACCAATAG TAGTAGCGGG GAAATGATGA TGGAGAAAGG AGAGATAAAA AACTGCTCTT
6190      6200
TCAATATCAG CACAAGCATA.
```

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

        6260      6270      6280      6290      6300
        T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT
6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

        6390      6400      6410      6420
        A ATAATAAGAC GTTCAATGGA ACAGGACCAT
6430      6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

      6490      6500      6510      6520      6530      6540
GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTACAG

      6550      6560      6570      6580      6590      6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

      6610      6620
CCAACAACAA TACAAGAAAA.

```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

```

      6860      6870      6880      6890      6900
      T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA

      6910      6920      6930
CTTGGAGTAC TGAAGGGTCA AATAACACTG.

```

149. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

                                7540      7550      7560
                                GAATGC TAGTTGGAGT AATAAATCTC

      7570      7580      7590      7600      7610      7620
TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA

      7630
CAAGCTTAAT.

```

150. A method of using the cloned DNA of any of claims 142-149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Marc ALIZON et al.

Application No.: 07/158,652

Filed: February 22, 1988

For: CLONED DNA SEQUENCE  
RELATED TO THE GENOMIC RNA  
OF HUMAN IMMUNODEFICIENCY  
VIRUS TYPE 1 (HIV-1)

)  
) Group Art Unit: 1637  
)  
) Examiner: Jeffrey N. Fredman  
)  
) Confirmation No.: 3369  
)  
)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF CHARLES DAUGUET**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.

I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: Charles Dauguet

Date: 26 May 2008

U.S. Patent Application No. 07/158,652

Filed: February 22, 1988

Inventors: Alizon et al.

Your Ref.: DI No.: 84-37

Our Ref.: 03495.0010-01000

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1

(HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	5670	5680	5690	5700	
	A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA	
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGAAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATATA	CATTATTGTG



6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAAACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG

7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACATAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700 ATGAGAGTGA
5710 AGGAGAAATA	5720 TCAGCACTTG	5730 TGGAGATGGG	5740 GGTGGAATG	5750 GGGCACCATG	5760 CTCCTTGGGA
5770 TATTGATGAT	5780 CTGTAGTGCT	5790 ACAGAAAAAT	5800 TGTGGGTCAC	5810 AGTCTATTAT	5820 GGGGTACCTG
5830 TGTGGAAGGA	5840 AGCAACCACC	5850 ACTCTATTTT	5860 GTGCATCAGA	5870 TGCTAAAGCA	5880 TATGATACAG
5890 AGGTACATAA	5900 TGTTTGGGCC	5910 ACACATGCCT	5920 GTGTACCCAC	5930 AGACCCCAAC	5940 CCACAAGAAG
5950 TAGTATTGGT	5960 AAATGTGACA	5970 GAAAATTTTA	5980 ACATGTGGAA	5990 AAATGACATG	6000 GTAGAACAGA
6010 TGCATGAGGA	6020 TATAATCAGT	6030 TTATGGGATC	6040 AAAGCCTAAA	6050 GCCATGTGTA	6060 AAATTAACCC
6070 CACTCTGTGT	6080 TAGTTTAAAG	6090 TGCACTGATT	6100 TGGGGAATGC	6110 TACTAATACC	6120 AATAGTAGTA
6130 ATACCAATAG	6140 TAGTAGCGGG	6150 GAAATGATGA	6160 TGGAGAAAGG	6170 AGAGATAAAA	6180 AACTGCTCTT
6190 TCAATATCAG	6200 CACAAGCATA	6210 AGAGGTAAGG	6220 TGCAGAAAGA	6230 ATATGCATTT	6240 TTTTATAAAC
6250 TTGATATAAT	6260 ACCAATAGAT	6270 AATGATACTA	6280 CCAGCTATAC	6290 GTTGACAAGT	6300 TGTAACACCT
6310 CAGTCATTAC	6320 ACAGGCCTGT	6330 CCAAAGGTAT	6340 CCTTTGAGCC	6350 AATTCCCATA	6360 CATTATTGTG
6370 CCCCGGCTGG	6380 TTTTGCGATT	6390 CTAAAATGTA	6400 ATAATAAGAC	6410 GTTCAATGGA	6420 ACAGGACCAT
6430 GTACAAATGT	6440 CAGCACAGTA	6450 CAATGTACAC	6460 ATGGAATTAG	6470 GCCAGTAGTA	6480 TCAACTCAAC
6490 TGCTGTTGAA	6500 TGGCAGTCTA	6510 GCAGAAGAAG	6520 AGGTAGTAAT	6530 TAGATCTGCC	6540 AATTTACAG
6550 ACAATGCTAA	6560 AACCATAATA	6570 GTACAGCTGA	6580 ACCAATCTGT	6590 AGAAATTAAT	6600 TGTACAAGAC

6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTGGAAT	AATAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCCTCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC

7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAAC TTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAAC TAAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

6100	6110	6120			
GAATGC	TACTAATACC	AATAGTAGTA			
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200				
TCAATATCAG	CACAAGCATA.				

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6260        6270        6280        6290        6300
          T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
                6390                6400                6410                6420
                  A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430        6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6490        6500        6510        6520        6530        6540
      GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTACAG

        6550        6560        6570        6580        6590        6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610        6620
CCAACAACAA TACAAGAAAA.
```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

6860            6870            6880            6890            6900  
 T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA  
 6910            6920            6930  
 CTTGGAGTAC TGAAGGGTCA AATAACACTG.

149. A cloned DNA of Human Immunodeficiency Virus Type 1  
 (HIV-1), wherein the DNA comprises the sequence  
 CTC AATAAAGCTTGCCTTG, and the DNA comprises the sequence:

7540            7550            7560  
 GAATGC TAGTTGGAGT AATAAATCTC  
 7570            7580            7590            7600            7610            7620  
 TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AAC AATTACA  
 7630  
 CAAGCTTAAT.

150. A method of using the cloned DNA of any of claims 142-  
 149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.





PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey N. Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF WILLY ROZENBAUM**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.

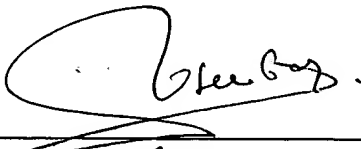
I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By:   
W. ROSENBAUM.  
Date: 25 May 2006

U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1  
(HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	5670	5680	5690	5700	
	A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA	
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATATA	CATTATTGTG

6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTCACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAAACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG

7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACATAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700 ATGAGAGTGA
5710 AGGAGAAATA	5720 TCAGCACTTG	5730 TGGAGATGGG	5740 GGTGGAATG	5750 GGGCACCATG	5760 CTCCTTGGGA
5770 TATTGATGAT	5780 CTGTAGTGCT	5790 ACAGAAAAAT	5800 TGTGGGTCAC	5810 AGTCTATTAT	5820 GGGGTACCTG
5830 TGTGGAAGGA	5840 AGCAACCACC	5850 ACTCTATTTT	5860 GTGCATCAGA	5870 TGCTAAAGCA	5880 TATGATACAG
5890 AGGTACATAA	5900 TGTTTGGGCC	5910 ACACATGCCT	5920 GTGTACCCAC	5930 AGACCCCAAC	5940 CCACAAGAAG
5950 TAGTATTGGT	5960 AAATGTGACA	5970 GAAAATTTTA	5980 ACATGTGGAA	5990 AAATGACATG	6000 GTAGAACAGA
6010 TGCATGAGGA	6020 TATAATCAGT	6030 TTATGGGATC	6040 AAAGCCTAAA	6050 GCCATGTGTA	6060 AAATTAACCC
6070 CACTCTGTGT	6080 TAGTTTAAAG	6090 TGCACTGATT	6100 TGGGGAATGC	6110 TACTAATACC	6120 AATAGTAGTA
6130 ATACCAATAG	6140 TAGTAGCGGG	6150 GAAATGATGA	6160 TGGAGAAAGG	6170 AGAGATAAAA	6180 AACTGCTCTT
6190 TCAATATCAG	6200 CACAAGCATA	6210 AGAGGTAAGG	6220 TGCAGAAAGA	6230 ATATGCATTT	6240 TTTTATAAAC
6250 TTGATATAAT	6260 ACCAATAGAT	6270 AATGATACTA	6280 CCAGCTATAC	6290 GTTGACAAGT	6300 TGTAACACCT
6310 CAGTCATTAC	6320 ACAGGCCTGT	6330 CCAAAGGTAT	6340 CCTTTGAGCC	6350 AATTCCCATA	6360 CATTATTGTG
6370 CCCCGGCTGG	6380 TTTTGCGATT	6390 CTAAAATGTA	6400 ATAATAAGAC	6410 GTTCAATGGA	6420 ACAGGACCAT
6430 GTACAAATGT	6440 CAGCACAGTA	6450 CAATGTACAC	6460 ATGGAATTAG	6470 GCCAGTAGTA	6480 TCAACTCAAC
6490 TGCTGTTGAA	6500 TGGCAGTCTA	6510 GCAGAAGAAG	6520 AGGTAGTAAT	6530 TAGATCTGCC	6540 AATTTACACAG
6550 ACAATGCTAA	6560 AACCATAATA	6570 GTACAGCTGA	6580 ACCAATCTGT	6590 AGAAATTAAT	6600 TGTACAAGAC

6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC

7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAAC TTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAAC TAAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	6100	6110	6120
	GAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160
6170	6180		
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGAGAAAGG
		AGAGATAAAA	AACTGCTCTT
6190	6200		
TCAATATCAG	CACAAGCATA.		



145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6260        6270        6280        6290        6300
          T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
                6390                6400                6410                6420
                  A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430        6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6490        6500        6510        6520        6530        6540
      GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTCACAG

        6550        6560        6570        6580        6590        6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610        6620
CCAACAACAA TACAAGAAAA.
```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

6860            6870            6880            6890            6900  
 T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA  
 6910            6920            6930  
 CTTGGAGTAC TGAAGGGTCA AATAACACTG.

149. A cloned DNA of Human Immunodeficiency Virus Type 1  
 (HIV-1), wherein the DNA comprises the sequence  
 CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

7540            7550            7560  
 GAATGC TAGTTGGAGT AATAAATCTC  
 7570            7580            7590            7600            7610            7620  
 TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA  
 7630  
 CAAGCTTAAT.

150. A method of using the cloned DNA of any of claims 142-  
 149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey N. Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1) )

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF FRANÇOISE BRUN-VEZINET**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.

I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

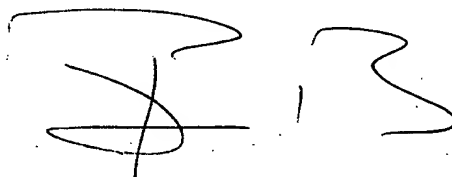
I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: *Francis Brun - Ve'zinet*

Date: *30/05/06*



U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1  
(HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

		5670	5680	5690	5700
		A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAATG	GGGCACCATG	CTCCTTGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG

6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGGAGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG

7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTCAC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTGCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAATAAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:



5700  
ATGAGAGTGA

5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG
6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC

6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGGAGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC

7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGCG
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACTAAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

6100	6110	6120			
GAATGC	TACTAATACC	AATAGTAGTA			
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200				
TCAATATCAG	CACAAGCATA.				

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6260        6270        6280        6290        6300
          T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6390        6400        6410        6420
          A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430        6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6490        6500        6510        6520        6530        6540
      GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTCACAG

        6550        6560        6570        6580        6590        6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610        6620
CCAACAACAA TACAAGAAAA.
```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

6860            6870            6880            6890            6900  
 T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA  
 6910            6920            6930  
 CTTGGAGTAC TGAAGGGTCA AATAACACTG.

149. A cloned DNA of Human Immunodeficiency Virus Type 1  
 (HIV-1), wherein the DNA comprises the sequence  
 CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

7540            7550            7560  
 GAATGC TAGTTGGAGT AATAAATCTC  
 7570            7580            7590            7600            7610            7620  
 TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA  
 7630  
 CAAGCTTAAT.

150. A method of using the cloned DNA of any of claims 142-  
 149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.

PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re Application of:

Marc ALIZON et al.

Application No.: 07/158,652

Filed: February 22, 1988

For: CLONED DNA SEQUENCE  
RELATED TO THE GENOMIC RNA  
OF HUMAN IMMUNODEFICIENCY  
VIRUS TYPE 1 (HIV-1)

)  
) Group Art Unit: 1637  
)  
) Examiner: Jeffrey N. Fredman  
)  
) Confirmation No.: 3369  
)  
)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF CHRISTINE ROUZIUX  
(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.

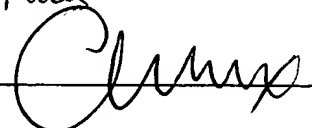
I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Christian Rovinsky  
By:   
Date: 30 05 2006



U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1  
(HIV-1), wherein the DNA comprises the sequence  
CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	5670	5680	5690	5700
	A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA
5710	5720	5730	5740	5750
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG
				5760
				CTCCTTGGGA
5770	5780	5790	5800	5810
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT
				5820
				GGGGTACCTG
5830	5840	5850	5860	5870
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA
				5880
				TATGATACAG
5890	5900	5910	5920	5930
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC
				5940
				CCACAAGAAG
5950	5960	5970	5980	5990
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG
				6000
				GTAGAACAGA
6010	6020	6030	6040	6050
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA
				6060
				AAATTAACCC
6070	6080	6090	6100	6110
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC
				6120
				AATAGTAGTA
6130	6140	6150	6160	6170
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA
				6180
				AACTGCTCTT
6190	6200	6210	6220	6230
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT
				6240
				TTTTATAAAC
6250	6260	6270	6280	6290
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT
				6300
				TGTAACACCT
6310	6320	6330	6340	6350
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATATA
				6360
				CATTATTGTG

6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGTAC	TGAAGGGTCA	AATAAACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG

7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAACT	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAAC TTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAAC TAAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700
					ATGAGAGTGA
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG
6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC

6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCCTCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC

7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAAC TTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGG AAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGA ACTAAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	6100	6110	6120		
	GAATGC	TACTAATACC	AATAGTAGTA		
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200				
TCAATATCAG	CACAAGCATA.				

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6260        6270        6280        6290        6300
          T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
                6390        6400        6410        6420
                  A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430        6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6490        6500        6510        6520        6530        6540
      GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTACAG

        6550        6560        6570        6580        6590        6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610        6620
CCAACAACAA TACAAGAAAA.
```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

6860            6870            6880            6890            6900  
           T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA  
 6910            6920            6930  
 CTTGGAGTAC TGAAGGGTCA AATAACACTG.

149. A cloned DNA of Human Immunodeficiency Virus Type 1  
 (HIV-1), wherein the DNA comprises the sequence  
 CTCATAAAGCTTGCCTTG, and the DNA comprises the sequence:

7540            7550            7560  
           GAATGC TAGTTGGAGT AATAAATCTC  
 7570            7580            7590            7600            7610            7620  
 TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA  
 7630  
 CAAGCTTAAT.

150. A method of using the cloned DNA of any of claims 142-  
 149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.



151. A method of making HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Marc ALIZON et al.

Application No.: 07/158,652

Filed: February 22, 1988

For: CLONED DNA SEQUENCE  
RELATED TO THE GENOMIC RNA  
OF HUMAN IMMUNODEFICIENCY  
VIRUS TYPE 1 (HIV-1)

)  
) Group Art Unit: 1637  
)  
) Examiner: Jeffrey N. Fredman  
)  
) Confirmation No.: 3369  
)  
)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF LUC MONTAGNIER**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.

I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: 

Date: May 24 2006

U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1  
(HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

		5670	5680	5690	5700
		A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATATA	CATTATTGTG

6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTTCACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCCCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG

7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAACT	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACTAAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700 ATGAGAGTGA
5710 AGGAGAAATA	5720 TCAGCACTTG	5730 TGGAGATGGG	5740 GGTGGAAATG	5750 GGGCACCATG	5760 CTCCTTGGGA
5770 TATTGATGAT	5780 CTGTAGTGCT	5790 ACAGAAAAAT	5800 TGTGGGTCAC	5810 AGTCTATTAT	5820 GGGGTACCTG
5830 TGTGGAAGGA	5840 AGCAACCACC	5850 ACTCTATTTT	5860 GTGCATCAGA	5870 TGCTAAAGCA	5880 TATGATACAG
5890 AGGTACATAA	5900 TGTTTGGGCC	5910 ACACATGCCT	5920 GTGTACCCAC	5930 AGACCCCAAC	5940 CCACAAGAAG
5950 TAGTATTGGT	5960 AAATGTGACA	5970 GAAAATTTTA	5980 ACATGTGGAA	5990 AAATGACATG	6000 GTAGAACAGA
6010 TGCATGAGGA	6020 TATAATCAGT	6030 TTATGGGATC	6040 AAAGCCTAAA	6050 GCCATGTGTA	6060 AAATTAACCC
6070 CACTCTGTGT	6080 TAGTTTAAAG	6090 TGCACTGATT	6100 TGGGGAATGC	6110 TACTAATACC	6120 AATAGTAGTA
6130 ATACCAATAG	6140 TAGTAGCGGG	6150 GAAATGATGA	6160 TGGAGAAAGG	6170 AGAGATAAAA	6180 AACTGCTCTT
6190 TCAATATCAG	6200 CACAAGCATA	6210 AGAGGTAAGG	6220 TGCAGAAAGA	6230 ATATGCATTT	6240 TTTTATAAAC
6250 TTGATATAAT	6260 ACCAATAGAT	6270 AATGATACTA	6280 CCAGCTATAC	6290 GTTGACAAGT	6300 TGTAACACCT
6310 CAGTCATTAC	6320 ACAGGCCTGT	6330 CCAAAGGTAT	6340 CCTTTGAGCC	6350 AATTCCCATA	6360 CATTATTGTG
6370 CCCCGGCTGG	6380 TTTTGCGATT	6390 CTAAAATGTA	6400 ATAATAAGAC	6410 GTTCAATGGA	6420 ACAGGACCAT
6430 GTACAAATGT	6440 CAGCACAGTA	6450 CAATGTACAC	6460 ATGGAATTAG	6470 GCCAGTAGTA	6480 TCAACTCAAC
6490 TGCTGTTGAA	6500 TGGCAGTCTA	6510 GCAGAAGAAG	6520 AGGTAGTAAT	6530 TAGATCTGCC	6540 AATTTACACAG
6550 ACAATGCTAA	6560 AACCATAATA	6570 GTACAGCTGA	6580 ACCAATCTGT	6590 AGAAATTAAT	6600 TGTACAAGAC

6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAAAC	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCCTCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTGTCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC



7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAAC TTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAAC TAAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	6100	6110	6120		
	GAATGC	TACTAATACC	AATAGTAGTA		
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200				
TCAATATCAG	CACAAGCATA.				

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6260      6270      6280      6290      6300
          T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
                6390      6400      6410      6420
                  A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430      6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6490      6500      6510      6520      6530      6540
          GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTCACAG

        6550      6560      6570      6580      6590      6600
        ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610      6620
CCAACAACAA TACAAGAAAA.
```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

6860            6870            6880            6890            6900  
 T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA  
 6910            6920            6930  
 CTTGGAGTAC TGAAGGGTCA AATAACACTG.

149. A cloned DNA of Human Immunodeficiency Virus Type 1  
 (HIV-1), wherein the DNA comprises the sequence  
 CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

7540            7550            7560  
 GAATGC TAGTTGGAGT AATAAATCTC  
 7570            7580            7590            7600            7610            7620  
 TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA  
 7630  
 CAAGCTTAAT.

150. A method of using the cloned DNA of any of claims 142-  
 149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey N. Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF JEAN-CLAUDE CHERMANN**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No. 07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652 have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.

I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: Jean Claude Chermansy

Date: May 26 06

U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
DI No.: 84-37  
Our Ref.: 03495.0010-01000

---

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	5670	5680	5690	5700	
	A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA	
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT

6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG
6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGGAGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT



7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAACT	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACTAAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700 ATGAGAGTGA
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAATG	GGGCACCATG	CTCCTTGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG
6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC

6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA

7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAACT	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACATAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

                                6100      6110      6120
                                GAATGC  TACTAATACC  AATAGTAGTA

        6130      6140      6150      6160      6170      6180
ATACCAATAG TAGTAGCGGG GAAATGATGA TGGAGAAAGG AGAGATAAAA AACTGCTCTT

        6190      6200
TCAATATCAG CACAAGCATA.
```

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

        6260      6270      6280      6290      6300
        T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

        6390      6400      6410      6420
        A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430      6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

        6490      6500      6510      6520      6530      6540
GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTCACAG

        6550      6560      6570      6580      6590      6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610      6620
CCAACAACAA TACAAGAAAA.

```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

```

        6860      6870      6880      6890      6900
T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA

        6910      6920      6930
CTTGGAGTAC TGAAGGGTCA AATAAACTG.

```

149. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

                                7540      7550      7560
                                GAATGC TAGTTGGAGT AATAAATCTC

        7570      7580      7590      7600      7610      7620
TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAAATTACA

        7630
CAAGCTTAAT.

```

150. A method of using the cloned DNA of any of claims 142-149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey N. Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF FRANÇOISE BARRE-SINOUSSE**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.



I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: 05/24/2006

Date: 

U.S. Patent Application No. 07/158,652

Filed: February 22, 1988

Inventors: Alizon et al.

DI No.: 84-37

Our Ref.: 03495.0010-01000

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Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	5670	5680	5690	5700	
	A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA	
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT

6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG
6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGGAGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT

7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAACT	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAAC TTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGG AAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGA ACTAAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700 ATGAGAGTGA
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATTCCCATA	CATTATTGTG
6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC

6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTACACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCTCCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA

7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTCAC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACATAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

                                6100      6110      6120
                                GAATGC   TACTAATACC AATAGTAGTA

    6130      6140      6150      6160      6170      6180
ATACCAATAG TAGTAGCGGG GAAATGATGA TGGAGAAAGG AGAGATAAAA AACTGCTCTT

    6190      6200
TCAATATCAG CACAAGCATA.
```

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

    6260      6270      6280      6290      6300
      T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

    6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

                                6390      6400      6410      6420
                                A ATAATAAGAC GTTCAATGGA ACAGGACCAT

    6430      6440
GTACAAATGT CAGCACAGTA.
```



147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

        6490      6500      6510      6520      6530      6540
      GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTCACAG

        6550      6560      6570      6580      6590      6600
    ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610      6620
    CCAACAACAA TACAAGAAAA.

```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

```

        6860      6870      6880      6890      6900
              T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA

        6910      6920      6930
    CTTGGAGTAC TGAAGGGTCA AATAACACTG.

```

149. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```

                                7540      7550      7560
                                GAATGC TAGTTGGAGT AATAAATCTC

        7570      7580      7590      7600      7610      7620
    TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAAATTACA

        7630
    CAAGCTTAAT.

```

150. A method of using the cloned DNA of any of claims 142-149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:

Marc ALIZON et al.

Application No.: 07/158,652

Filed: February 22, 1988

For: CLONED DNA SEQUENCE  
RELATED TO THE GENOMIC RNA  
OF HUMAN IMMUNODEFICIENCY  
VIRUS TYPE 1 (HIV-1)

)  
) Group Art Unit: 1637  
)  
) Examiner: Jeffrey N. Fredman  
)  
) Confirmation No.: 3369  
)  
)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF PIERRE TIOLLAIS**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claims 142-151 to the application.

I am informed that a copy of claims 142-151 is attached hereto.

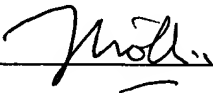
I have read claims 142-151, which I am informed were added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claims 142-151 to the application.

The inventorship error resulting from the amendment of the claims by adding claims 142-151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: 

Date: 24 mai 05

U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Pending Claims

142. A cloned DNA of Human Immunodeficiency Virus Type 1  
(HIV-1), wherein the DNA comprises the sequence

CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	5670	5680	5690	5700	
	A	AAGAGCAGAA	GACAGTGGCA	ATGAGAGTGA	
5710	5720	5730	5740	5750	5760
AGGAGAAATA	TCAGCACTTG	TGGAGATGGG	GGTGGAAATG	GGGCACCATG	CTCCTTGGGA
5770	5780	5790	5800	5810	5820
TATTGATGAT	CTGTAGTGCT	ACAGAAAAAT	TGTGGGTCAC	AGTCTATTAT	GGGGTACCTG
5830	5840	5850	5860	5870	5880
TGTGGAAGGA	AGCAACCACC	ACTCTATTTT	GTGCATCAGA	TGCTAAAGCA	TATGATACAG
5890	5900	5910	5920	5930	5940
AGGTACATAA	TGTTTGGGCC	ACACATGCCT	GTGTACCCAC	AGACCCCAAC	CCACAAGAAG
5950	5960	5970	5980	5990	6000
TAGTATTGGT	AAATGTGACA	GAAAATTTTA	ACATGTGGAA	AAATGACATG	GTAGAACAGA
6010	6020	6030	6040	6050	6060
TGCATGAGGA	TATAATCAGT	TTATGGGATC	AAAGCCTAAA	GCCATGTGTA	AAATTAACCC
6070	6080	6090	6100	6110	6120
CACTCTGTGT	TAGTTTAAAG	TGCACTGATT	TGGGGAATGC	TACTAATACC	AATAGTAGTA
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200	6210	6220	6230	6240
TCAATATCAG	CACAAGCATA	AGAGGTAAGG	TGCAGAAAGA	ATATGCATTT	TTTTATAAAC
6250	6260	6270	6280	6290	6300
TTGATATAAT	ACCAATAGAT	AATGATACTA	CCAGCTATAC	GTTGACAAGT	TGTAACACCT
6310	6320	6330	6340	6350	6360
CAGTCATTAC	ACAGGCCTGT	CCAAAGGTAT	CCTTTGAGCC	AATCCCCATA	CATTATTGTG

6370	6380	6390	6400	6410	6420
CCCCGGCTGG	TTTTGCGATT	CTAAAATGTA	ATAATAAGAC	GTTCAATGGA	ACAGGACCAT
6430	6440	6450	6460	6470	6480
GTACAAATGT	CAGCACAGTA	CAATGTACAC	ATGGAATTAG	GCCAGTAGTA	TCAACTCAAC
6490	6500	6510	6520	6530	6540
TGCTGTTGAA	TGGCAGTCTA	GCAGAAGAAG	AGGTAGTAAT	TAGATCTGCC	AATTTTCACAG
6550	6560	6570	6580	6590	6600
ACAATGCTAA	AACCATAATA	GTACAGCTGA	ACCAATCTGT	AGAAATTAAT	TGTACAAGAC
6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTGGAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGTAC	TGAAGGGTCA	AATAAACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCCTCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG

7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGAATGC	TAGTTGGAGT	AATAAATCTC
7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAACCTTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACATAAG	AA.		

143. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

					5700 ATGAGAGTGA
5710 AGGAGAAATA	5720 TCAGCACTTG	5730 TGGAGATGGG	5740 GGTGGAATG	5750 GGGCACCATG	5760 CTCCTTGGGA
5770 TATTGATGAT	5780 CTGTAGTGCT	5790 ACAGAAAAAT	5800 TGTGGGTCAC	5810 AGTCTATTAT	5820 GGGGTACCTG
5830 TGTGGAAGGA	5840 AGCAACCACC	5850 ACTCTATTTT	5860 GTGCATCAGA	5870 TGCTAAAGCA	5880 TATGATACAG
5890 AGGTACATAA	5900 TGTTTGGGCC	5910 ACACATGCCT	5920 GTGTACCCAC	5930 AGACCCCAAC	5940 CCACAAGAAG
5950 TAGTATTGGT	5960 AAATGTGACA	5970 GAAAATTTTA	5980 ACATGTGGAA	5990 AAATGACATG	6000 GTAGAACAGA
6010 TGCATGAGGA	6020 TATAATCAGT	6030 TTATGGGATC	6040 AAAGCCTAAA	6050 GCCATGTGTA	6060 AAATTAACCC
6070 CACTCTGTGT	6080 TAGTTTAAAG	6090 TGCACTGATT	6100 TGGGGAATGC	6110 TACTAATACC	6120 AATAGTAGTA
6130 ATACCAATAG	6140 TAGTAGCGGG	6150 GAAATGATGA	6160 TGGAGAAAGG	6170 AGAGATAAAA	6180 AACTGCTCTT
6190 TCAATATCAG	6200 CACAAGCATA	6210 AGAGGTAAGG	6220 TGCAGAAAGA	6230 ATATGCATTT	6240 TTTTATAAAC
6250 TTGATATAAT	6260 ACCAATAGAT	6270 AATGATACTA	6280 CCAGCTATAC	6290 GTTGACAAGT	6300 TGTAACACCT
6310 CAGTCATTAC	6320 ACAGGCCTGT	6330 CCAAAGGTAT	6340 CCTTTGAGCC	6350 AATTCCCATA	6360 CATTATTGTG
6370 CCCCGGCTGG	6380 TTTTGCGATT	6390 CTAAAATGTA	6400 ATAATAAGAC	6410 GTTCAATGGA	6420 ACAGGACCAT
6430 GTACAAATGT	6440 CAGCACAGTA	6450 CAATGTACAC	6460 ATGGAATTAG	6470 GCCAGTAGTA	6480 TCAACTCAAC
6490 TGCTGTTGAA	6500 TGGCAGTCTA	6510 GCAGAAGAAG	6520 AGGTAGTAAT	6530 TAGATCTGCC	6540 AATTTACACG
6550 ACAATGCTAA	6560 AACCATAATA	6570 GTACAGCTGA	6580 ACCAATCTGT	6590 AGAAATTAAT	6600 TGTACAAGAC



6610	6620	6630	6640	6650	6660
CCAACAACAA	TACAAGAAAA	AGTATCCGTA	TCCAGAGGGG	ACCAGGGAGA	GCATTTGTTA
6670	6680	6690	6700	6710	6720
CAATAGGAAA	AATAGGAAAT	ATGAGACAAG	CACATTGTAA	CATTAGTAGA	GCAAAATGGA
6730	6740	6750	6760	6770	6780
ATGCCACTTT	AAAACAGATA	GCTAGCAAAT	TAAGAGAACA	ATTTGGAAAT	AATAAAACAA
6790	6800	6810	6820	6830	6840
TAATCTTTAA	GCAATCCTCA	GGAGGGGACC	CAGAAATTGT	AACGCACAGT	TTTAATTGTG
6850	6860	6870	6880	6890	6900
GAGGGGAATT	TTTCTACTGT	AATTCAACAC	AACTGTTTAA	TAGTACTTGG	TTTAATAGTA
6910	6920	6930	6940	6950	6960
CTTGAGTAC	TGAAGGGTCA	AATAACACTG	AAGGAAGTGA	CACAATCACA	CTCCCATGCA
6970	6980	6990	7000	7010	7020
GAATAAAACA	ATTTATAAAC	ATGTGGCAGG	AAGTAGGAAA	AGCAATGTAT	GCCCCCTCCA
7030	7040	7050	7060	7070	7080
TCAGCGGACA	AATTAGATGT	TCATCAAATA	TTACAGGGCT	GCTATTAACA	AGAGATGGTG
7090	7100	7110	7120	7130	7140
GTAATAACAA	CAATGGGTCC	GAGATCTTCA	GACCTGGAGG	AGGAGATATG	AGGGACAATT
7150	7160	7170	7180	7190	7200
GGAGAAGTGA	ATTATATAAA	TATAAAGTAG	TAAAAATTGA	ACCATTAGGA	GTAGCACCCA
7210	7220	7230	7240	7250	7260
CCAAGGCAAA	GAGAAGAGTG	GTGCAGAGAG	AAAAAAGAGC	AGTGGAATA	GGAGCTTTGT
7270	7280	7290	7300	7310	7320
TCCTTGGGTT	CTTGGGAGCA	GCAGGAAGCA	CTATGGGCGC	ACGGTCAATG	ACGCTGACGG
7330	7340	7350	7360	7370	7380
TACAGGCCAG	ACAATTATTG	TCTGGTATAG	TGCAGCAGCA	GAACAATTG	CTGAGGGCTA
7390	7400	7410	7420	7430	7440
TTGAGGCGCA	ACAGCATCTG	TTGCAACTCA	CAGTCTGGGG	CATCAAGCAG	CTCCAGGCAA
7450	7460	7470	7480	7490	7500
GAATCCTGGC	TGTGGAAAGA	TACCTAAAGG	ATCAACAGCT	CCTGGGGATT	TGGGGTTGCT
7510	7520	7530	7540	7550	7560
CTGGAAAAC	CATTTGCACC	ACTGCTGTGC	CTTGGAATGC	TAGTTGGAGT	AATAAATCTC

7570	7580	7590	7600	7610	7620
TGGAACAGAT	TTGGAATAAC	ATGACCTGGA	TGGAGTGGGA	CAGAGAAATT	AACAATTACA
7630	7640	7650	7660	7670	7680
CAAGCTTAAT	ACATTCCTTA	ATTGAAGAAT	CGAAAACCA	GCAAGAAAAG	AATGAACAAG
7690	7700	7710	7720	7730	7740
AATTATTGGA	ATTAGATAAA	TGGGCAAGTT	TGTGGAATTG	GTTTAAACATA	ACAAATTGGC
7750	7760	7770	7780	7790	7800
TGTGGTATAT	AAAAATATTC	ATAATGATAG	TAGGAGGCTT	GGTAGGTTTA	AGAATAGTTT
7810	7820	7830	7840	7850	7860
TTGCTGTACT	TTCTATAGTG	AATAGAGTTA	GGCAGGGATA	TTCACCATTA	TCGTTTCAGA
7870	7880	7890	7900	7910	7920
CCCACCTCCC	AACCCCGAGG	GGACCCGACA	GGCCCGAAGG	AATAGAAGAA	GAAGGTGGAG
7930	7940	7950	7960	7970	7980
AGAGAGACAG	AGACAGATCC	ATTCGATTAG	TGAACGGATC	CTTAGCACTT	ATCTGGGACG
7990	8000	8010	8020	8030	8040
ATCTGCGGAG	CCTTGTGCCT	CTTCAGCTAC	CACCGCTTGA	GAGACTTACT	CTTGATTGTA
8050	8060	8070	8080	8090	8100
ACGAGGATTG	TGGAAC TTCT	GGGACGCAGG	GGGTGGGAAG	CCCTCAAATA	TTGGTGGAAT
8110	8120	8130			
CTCCTACAGT	ATTGGAGTCA	GGAACTAAAG	AA.		

144. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

	6100	6110	6120		
	GAATGC	TACTAATACC	AATAGTAGTA		
6130	6140	6150	6160	6170	6180
ATACCAATAG	TAGTAGCGGG	GAAATGATGA	TGGAGAAAGG	AGAGATAAAA	AACTGCTCTT
6190	6200				
TCAATATCAG	CACAAGCATA.				

145. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6260        6270        6280        6290        6300
          T AATGATACTA CCAGCTATAC GTTGACAAGT TGTAACACCT

        6310
CAGTCATTAC.
```

146. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
                6390        6400        6410        6420
                  A ATAATAAGAC GTTCAATGGA ACAGGACCAT

        6430        6440
GTACAAATGT CAGCACAGTA.
```

147. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

```
        6490        6500        6510        6520        6530        6540
      GTTGAA TGGCAGTCTA GCAGAAGAAG AGGTAGTAAT TAGATCTGCC AATTTACAG

        6550        6560        6570        6580        6590        6600
ACAATGCTAA AACCATAATA GTACAGCTGA ACCAATCTGT AGAAATTAAT TGTACAAGAC

        6610        6620
CCAACAACAA TACAAGAAAA.
```

148. A cloned DNA of Human Immunodeficiency Virus Type 1 (HIV-1), wherein the DNA comprises the sequence CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence::

6860            6870            6880            6890            6900  
 T AATTCAACAC AACTGTTTAA TAGTACTTGG TTTAATAGTA  
 6910            6920            6930  
 CTTGGAGTAC TGAAGGGTCA AATAACACTG.

149. A cloned DNA of Human Immunodeficiency Virus Type 1  
 (HIV-1), wherein the DNA comprises the sequence  
 CTCAATAAAGCTTGCCTTG, and the DNA comprises the sequence:

7540            7550            7560  
 GAATGC TAGTTGGAGT AATAAATCTC  
 7570            7580            7590            7600            7610            7620  
 TGGAACAGAT TTGGAATAAC ATGACCTGGA TGGAGTGGGA CAGAGAAATT AACAATTACA  
 7630  
 CAAGCTTAAT.

150. A method of using the cloned DNA of any of claims 142-  
 149 to detect HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant;
- (d) disrupting the virions to release HIV-1 RNA;
- (e) contacting the HIV-1 RNA with the HIV-1 DNA of any of claims 142-149; and
- (f) detecting hybridization between the HIV-1 RNA and the HIV-1 DNA.

151. A method of making HIV-1 RNA comprising:

(a) providing a biological fluid comprising HIV-1 infected cells;

(b) preparing a cell-free supernatant from the biological fluid;

(c) isolating HIV-1 virions from the cell-free supernatant; and

(d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
 ) Group Art Unit: 1637  
Marc ALIZON et al. )  
 ) Examiner: Jeffrey N. Fredman  
Application No.: 07/158,652 )  
 ) Confirmation No.: 3369  
Filed: February 22, 1988 )  
 )  
For: CLONED DNA SEQUENCE  
RELATED TO THE GENOMIC RNA  
OF HUMAN IMMUNODEFICIENCY  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF ROBERT C. GALLO**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claim 151 to the application.

I am informed that a copy of claim 151 is attached hereto.

I have read claim 151, which I am informed was added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claim 151 to the application.

The inventorship error resulting from the amendment of the claims by adding claim 151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: Robert C. Gallo

Date: May 31, '06

U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Claim 151

151. A method of making HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.





PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey N. Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF MIKULAS POPOVIC**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No. 07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652 have been amended by adding claim 151 to the application.

I am informed that a copy of claim 151 is attached hereto.

I have read claim 151, which I am informed was added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claim 151 to the application.

The inventorship error resulting from the amendment of the claims by adding claim 151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: Mikhael Teyrosi  
Date: June 1, 2006

U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Claim 151

151. A method of making HIV-1 RNA comprising:
- (a) providing a biological fluid comprising HIV-1 infected cells;
  - (b) preparing a cell-free supernatant from the biological fluid;
  - (c) isolating HIV-1 virions from the cell-free supernatant; and
  - (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey N. Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**STATEMENT OF SARNGADHARAN**  
**(Being Added As An Inventor)**

I have read U.S. application Serial No. 07/158,652.

I am informed that I was not named as an inventor in application Serial No.  
07/158,652 when the application was filed in the U.S. Patent and Trademark Office.

I have been informed that the claims in U.S. application Serial No. 07/158,652  
have been amended by adding claim 151 to the application.

I am informed that a copy of claim 151 is attached hereto.

I have read claim 151, which I am informed was added to U.S. application Serial No. 07/158,652 to claim previously unclaimed subject matter.

I understand that I am being added as an inventor to U.S. application Serial No. 07/158,652.

I have been informed that my addition as an inventor to U.S. application Serial No. 07/158,652 is necessitated by the amendment of the claims by adding claim 151 to the application.

The inventorship error resulting from the amendment of the claims by adding claim 151 to U.S. application Serial No. 07/158,652 occurred without deceptive intention on my part.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: Mangalasseril G. Sornjadharan

Date: June 4, 2006

U.S. Patent Application No. 07/158,652  
Filed: February 22, 1988  
Inventors: Alizon et al.  
Your Ref.: DI No.: 84-37  
Our Ref.: 03495.0010-01000

Claim 151

151. A method of making HIV-1 RNA comprising:

- (a) providing a biological fluid comprising HIV-1 infected cells;
- (b) preparing a cell-free supernatant from the biological fluid;
- (c) isolating HIV-1 virions from the cell-free supernatant; and
- (d) disrupting the virions to release HIV-1 RNA, thereby making HIV-1 RNA.



PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey Norman Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1) )

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**CONSENT OF ASSIGNEE INSTITUT PASTEUR  
TO AMENDMENT OF INVENTORSHIP**

Institut Pasteur, duly organized under the laws of France and having its principal place of business at 28, rue du Docteur Roux, 75724 Paris Cedex 15, France, as an Assignee of the above-identified application, does hereby consent to amendment of inventorship from the inventive entity:

Marc Alizon  
Pierre Sonigo  
Simon Wain-Hobson  
Stewart Cole  
Oliver Danos

to the inventive entity:

Solange Chamaret  
Claudine Axler-Blin  
Françoise Rey  
Marie-Therese Nugeyre  
Jacqueline Gruet  
Charles Dauguet  
Willy Rozenbaum  
Christine Rouzioux  
François Brun-Vezinet  
Luc Montagnier  
Jean-Claude Chermann  
Françoise Barre-Sinoussi  
Pierre Tiollais  
Marc Alizon  
Pierre Sonigo  
Simon Wain-Hobson  
Stewart Cole  
Oliver Danos  
Robert C. Gallo  
Mikulas Popovic  
Mangalasseril G. Sarngadharan

The undersigned is authorized to act on behalf of the Assignee, Institut Pasteur.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

*A. Dautry*

By: \_\_\_\_\_  
Name: Alice Dautry  
Title: President  
For Assignee: Institut Pasteur

Dated: \_\_\_\_\_

*June 1<sup>st</sup>, 2006*





PATENT  
Customer No. 22,852  
Attorney Docket No. 3495.0010-01

In re Application of: )  
Marc ALIZON et al. ) Group Art Unit: 1637  
Application No.: 07/158,652 ) Examiner: Jeffrey Norman Fredman  
Filed: February 22, 1988 ) Confirmation No.: 3369  
For: CLONED DNA SEQUENCE )  
RELATED TO THE GENOMIC RNA )  
OF HUMAN IMMUNODEFICIENCY )  
VIRUS TYPE 1 (HIV-1)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**CONSENT OF ASSIGNEE THE UNITED STATES OF AMERICA  
TO AMENDMENT OF INVENTORSHIP**

The United States of America as represented by the Secretary of the Department of Health and Human Services, having its principal place of business at 900 Rockville Pike, Bethesda, Maryland 20892, as an Assignee of the above-identified application, does hereby consent to amendment of inventorship from the inventive entity:

Marc Alizon  
Pierre Sonigo  
Simon Wain-Hobson  
Stewart Cole  
Oliver Danos

to the inventive entity:

Robert C. Gallo  
Mikulas Popovic  
Mangalasseril G. Sarngadharan  
Solange Chamaret  
Claudine Axler-Blin  
Françoise Rey  
Marie-Therese Nugeyre  
Jacqueline Gruet  
Charles Dauguet  
Willy Rozenbaum  
Christine Rouzioux  
François Brun-Vezinet  
Luc Montagnier  
Jean-Claude Chermann  
Françoise Barre-Sinoussi  
Pierre Tiollais  
Marc Alizon  
Pierre Sonigo  
Simon Wain-Hobson  
Stewart Cole  
Oliver Danos

The undersigned is authorized to act on behalf of the Assignee, the United States of America as represented by the Secretary of the Department of Health and Human Services.

I hereby declare that all statements made of my own knowledge and belief are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

By: *Jack Spiegel*  
Name: JACK SPIEGEL (REG# 34,477)  
Title: SENIOR ADVISOR FOR TECHNOLOGY TRANSFER OPERATIONS  
For Assignee: The United States of America  
as represented by the  
Secretary of the Department of  
Health and Human Services.

Dated: JUNE 5, 2006

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